



**AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL**

**TYPE CERTIFICATE DATA SHEET No. ER-2011T-06**

Type Certificate Holder:

**ROBINSON HELICOPTER COMPANY**  
2901 Airport Drive  
Torrance, California 90505  
**USA**

ER-2011T06  
Sheet 01

ROBINSON  
R66

29 July 2011

This data sheet, which is part of Type Certificate No.2011T-06, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

**I - Model R66 (Normal Category Rotorcraft), approved 29 July 2011.**

<b>ENGINE</b>	One Rolls-Royce 250-C300/A1, Type Certificate number 2011T05.	
<b>FUEL SPECIFICATION</b>	Jet A or Jet A-1 conforming to ASTM D 1655 Jet B conforming to ASTM D 6615 JP-4 or JP-5 conforming to MIL-DTL-5624 JP-8 conforming to MIL-DTL-83133	
<b>ENGINE LIMITS</b>	Power Ratings at N <sub>2</sub> speed of 6016 rpm (100% rpm): Maximum continuous:..... 224 hp (83% Torque) Takeoff (5 minute):.....270 hp (100% Torque)  Maximum speeds: Output shaft (N <sub>2</sub> ):..... 101% (6076 rpm) Gas producer shaft (N <sub>1</sub> ):.....105% (53519 rpm)  Maximum Measured gas temperature: During start: .....927° C (10 second limit above 810°C) 5 minute during operation: .....782° C Continuous during operation: ...706° C	
<b>ROTOR LIMITS</b>	Power Off Maximum....432 rpm (106%) Minimum ....359 rpm (88%)	Power On Maximum....412 rpm (101%) Minimum.....404 rpm (99%)
<b>TRANSMISSION TORQUE LIMITS</b>	Rating	Max.Torque at 100% N <sub>2</sub>
	Takeoff (5 minute).....	236 ft-lb (100%)
	Maximum continuous....	196 ft-lb (83%)

**AIRSPEED LIMITS**

Takeoff Gross Weight Power On  $V_{NE}$  Power Off  $V_{NE}$   
 Less than 2200 lb.....140 KIAS..... 100 KIAS  
 2200 lb to 2700 lb.....130 KIAS.....100 KIAS  
 Sea level  $V_{NE}$  values shown above. For reduction of  $V_{NE}$  with altitude and temperature, see R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661).  
 Airspeed limit is 65 KIAS for power settings above 83% torque.  
 Airspeed limit is 100 KIAS for any combination of doors off.

**CG LIMITS**

Gross Weight (lb)	Longitudinal C.G.	
	Forward Limit (in)	Aft Limit (in)
1400	91.0	102.5
2300		102.5
2500	91.0	
2700	92.0	98.0

Longitudinal CG (in)	Lateral C.G.	
	Left Limit (in)	Right Limit (in)
91.0	-3.5	+3.5
100.0	-3.5	+3.5
102.5	-1.5	+1.5

- Notes:  
 1. Straight line variation between points shown  
 2. Lateral C.G. limits valid for all gross weights

**ALTITUDE LIMITS**

14,000 feet Density Altitude.  
 Maximum altitude above ground level is 9,000 ft.

**MAXIMUM WEIGHTS**

2700 lb

**MINIMUM CREW**

1 pilot in forward right seat.

**PASSENGERS**

5 seats – 1

**MAXIMUM BAGGAGE**

Main baggage compartment  
 Maximum weight is 300 lb at STA 107.0 in  
 Maximum loading density is 50 lb/ft<sup>2</sup>  
 Underseat baggage compartments  
 Forward seats – Maximum weight is 50 lb at STA 42.0 in  
 Rear seats – Maximum weight is 50 lb at STA 82.0 in  
 Note: For any seat location, the maximum combined weight of the load on the seat (e.g., occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 300 lb.

**FUEL CAPACITY**

Fuel tank capacity is 74.6 U.S. gallons  
 Usable fuel quantity is 73.6 U.S. gallons at STA 102.5 in  
 Note: Aircraft empty weight includes 1.0 U.S. gallon of unusable fuel.

**OIL CAPACITY**

Component	Capacity (qt)	STA (in)

Engine	6	126.0
Main Rotor Transmission	2	100.0
Tail Rotor Transmission	0.11	327.0
Hydraulic Reservoir	0.65	110.8

## ROTOR BLADE AND CONTROL MOVEMENTS

### Main Rotor Blades

Colletive Pitch	13.0° ±0.5 total travel	
Cyclic Pitch	Forward	13.50° to 14.25°
	Aft	13.50° to 14.25°
	Left	7.5° to 8.5°
	Right	6.0° to 7.0°

Note: Collective low pitch to be established in accordance with the Maintenance Manual and Instructions for Continued Airworthiness (RTR 660) procedures to obtain proper autorotation RPM.

Colletive Pitch	Left pedal	15.5° to 16.5°
	Right pedal	18.5° to 19.0°

All blade angles measured at 75% radius

### DATUM

100 inches forward of main rotor centerline.

### LEVELING MEANS

For weight and balance: Level placed laterally and longitudinally on aft tunnel cover immediately forward of aft middle seat. If cover is not straight, use keel panel upper flanges, accessed by removing aft tunnel cover.  
 For rigging: Level placed on top of main rotor hub parallel with teeter bolt.  
 Main rotor blades are aligned fore-aft for lateral levelling, and teeter bolt is aligned fore-aft for longitudinal levelling.

### SERIAL NUMBERS ELIGIBLE

0002 and subsequent.

A FAA Certificate of Airworthiness for Export, endorsed as noted under Import Requirements, must be submitted for each individual rotorcraft for which application for a Brazilian Airworthiness Certificate is made.

### IMPORT REQUIREMENTS

A Brazilian Airworthiness Certificate must be issued in the basis of the Airworthiness Certificate for Exportation issued by the FAA, including the following statement:

"The rotorcraft covered by this Certificate has been inspected, tested and found to comply with the Brazilian approved type design as defined by the CTA Type Certificate No XXXX, and is in condition for safe operation."

### CERTIFICATION BASIS

Brazilian Type Certificate No. 2011T-06 issued on 29 July 2011 based on the RBHA 27 [corresponding to: 14 CFR Part 27,

dated February 1, 1965, as amended by Amendment 27-1 through Amendment 27-44 (Normal Category Rotorcraft)] and RBHA 36 [corresponding to: 14 CFR Part 36, dated December 1, 1969, as amended by Amendment 36-1 through Amendment 36-28].

Compliance with the ditching requirements of § 27.801 was not demonstrated.

Compliance with the ice protection requirements of § 27.1419 was not demonstrated.

The R66 is approved for day and night VFR operations only.

Special Conditions: N/A

Exemptions: FAA Exemption No. 9589, dated January 28, 2008, to § 27.695. This exemption was granted to permit a powered flight control system without considering the jamming of a control valve as a possible single failure.

Equivalent Safety Level Findings: N/A

## EQUIPMENT

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following FAA-approved Rotorcraft Flight Manual is required:

R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661), dated October 25, 2010, or later approved revision.

## DATA PERTINENT TO ALL MODELS

### NOTES:

- NOTE 1**                    Weight and balance: A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter, except in the case of operators having an approved weight control system.
- NOTE 2**                    Marking and placards: The following placard must be installed in clear view of the pilot: "THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS" For additional placards, see the Rotorcraft Flight Manual. All placards required in the approved Rotorcraft Flight Manual supplement must be installed in the appropriate locations.
- NOTE 3**                    Continuing airworthiness. Information essential to the proper maintenance of the helicopter, including retirement time of critical components, is contained in the Robinson R66 Maintenance Manual and Instructions for Continued Airworthiness (RTR 660). Retirement times are listed in the approved "AIRWORTHINESS LIMITATIONS" section. The values of retirement or service lives and inspection intervals cannot be changed without FAA Engineering approval.
- NOTE 4**                    The differences of the Brazilian airplanes in relation to the basic FAA type design are required:
1. The Brazilian Airplane Flight Manual.
  2. The Markings and placards.
- NOTE 5**                    Any cockpit instruments installed by a 3rd party must be marked with limit markings and
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range markings in accordance with Robinson's marking scheme specified on page 2-1 of the R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661), dated October 25, 2010, or later approved revision by FAA on ANAC behalf

**NOTE 6** Determination for compliance with 27.562(c)(5), Head Impact Criteria (HIC) must be performed for any equipment installed in the cockpit or passenger cabin.

**NOTE 7** Determination for compliance with RBHA 27.571, safe-life requirements, must be performed for any applicant that intends to modify airframe structure. Service-life of rotorcraft structures can be dramatically affected by modifications to the airframe structure.

  
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